Establishing Cost Reduction Targets for the DoD Information Infrastructure Part 1 - DPI's and CDA's

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First Wave of Data Center Consolidations - 1991-1997 (*$ Millions*)

Component	Base Line*	Savings*	% Gain	Productivity/ Annum
Army	266	$79	30	+14%
Navy	981	218	22	+11.5%
Air Force	313	119	38	+16%
DLA	374	91	24	+12%
Totals	$1,934	$507	26	+12.5%

* Going Rate in 1997

Xerox Data Center Pricing Trends

	86	87	88	89	90	91	92
Volume Growth	–	+23%	+29%	+29%	+36%	+50%	+31%
Staff	268	255	254	242	232	236	232
Price Cut	–	-18%	-31%	-31%	-16%	-20%	-28%
1986 Relative Cost	$1.00	82¢	57¢	39¢	33¢	26¢	19¢

Compound Annual Productivity Growth: +25%

SOURCE: Director, Technology Services and Strategy, Xerox Corporation, 10/21/92

Contractor Performance on DEERS Transaction Services

Transactions	1988	1989	1990	1991
Champus Inquiries [$441,000]*	$0.0334	$0.0302	$0.0199	$0.0144
Productivity Gain/Year	–	+9.5%	+34.3%	+27.6%
Eligibility Inquiries [$553,000]*	$0.0261	$0.0228	$0.0209	$0.0188
Productivity Gain/Year	–	+12.8%	+8.2%	+10.2%
On-Line Updates [$226,000]*	$0.0416	$0.0333	$0.0263	$0.0215
Productivity Gain/Year	–	+20.0%	+21.0%	+18.3%
Batch Updates [$338,000]*	$0.0759	$0.0588	$0.0424	$0.0316
Productivity Gain/Year	–	+22.6%	+27.8%	+25.4%
Batch Tape Updates [$260,000]*	$0.0547	$0.0452	$0.0312	$0.0258
Productivity Gain/Year	–	+17.4%	+31.1%	+17.3%

Dollar weighted annual productivity gain: +18.8%

SOURCE: Office of the ASD Health Affairs, August 1992; * 1991 expenditures for transactions

Data Center Consolidation Case - Gains Realized in Two Years

Cost Element	Karastan	Bigelow	Consolidated	% Gain
MIPS	2	10	12	0%
Disk Capacity	4GB	20GB	15GB	– 40%
IT Staff	16	34	19	–62%
IT Budget	$2.0M	$3.4M	$3.5M	–35%

SOURCE: Computer Economics, Inc. - DP Budget Bulletin, November 1992, p.4

Data Center Rate Reductions from DITSO "Utility"*

	FY 92 Rates	FY 94 Rates	% Reduction
IBM CPU Hour	210.47	144.60	-31.3%
Input/Output	0.209	0.111	-44.7%
Tape Mounts	4.0247	2.5361	-37.0%
Disk Storage	0.00146	0.00122	-16.7%
Tape Storage	0.1482	0.0611	-58.8%
Printed Page	0.0402	0.0286	-28.9%
Microfiche	0.3565	0.338	-4.9%
Cards Punched	0.0414	0.0509	+23.0%
Support Services	38.46	26.91	-30.0%

Estimated weighted average productivity gains: 18%

* $ per unit of output. Depreciation included in all rates.

Benchmarking IPC Personnel Costs by Operating Function

IPC Function	DoD Sample	Industry Average*	Industry Best*	Potential Average Savings/yr	Potential Best Savings/yr
Print & Distribution	0.368	0.174	0.03	$121,159	$211,878
Tape Operations	0.286	0.237	0.077	$30,716	$130,893
Console Operations	0.245	0.128	0.058	$73,378	$117,268
Administration	0.18	0.09	0.022	$56,313	$98,549
Customer Service	0.169	0.071	0.018	$61,433	$94,709
Schedulers	0.125	0.046	0.016	$49,488	$68,731
13 Other Functions				$124,572	$400,850
Total Savings ($000)				$517,059	$1,122,878
% Labor Savings Potential				30.2%	65.5%
Required Annual Productivity Gains (1993-1999)				+14%	+21%

*SOURCE: Peat, Marwick & Mitchell Consulting study, Summer 1992 [Personnel employed per MIPS]. Est. personnel costs: $1.8 B

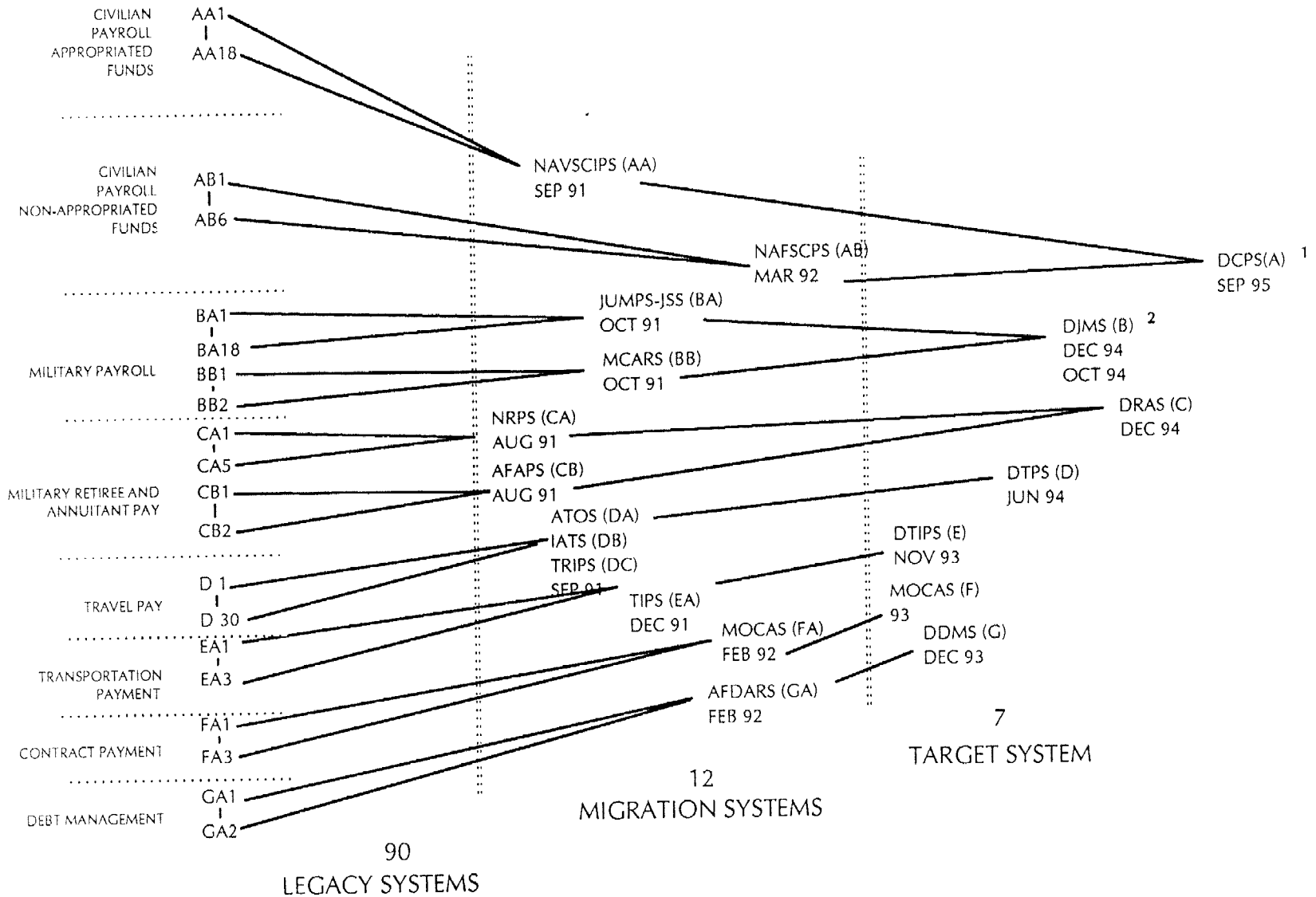
Xerox Network Services Pricing Trends

Year	Cents/minute	% Decrease
1987	31.6	–
1988	26.9	-15.0
1989	22.5	-15.0
1990	20.2	-10.0
1991	15.0	-20.0
1992	13.0	-13.3

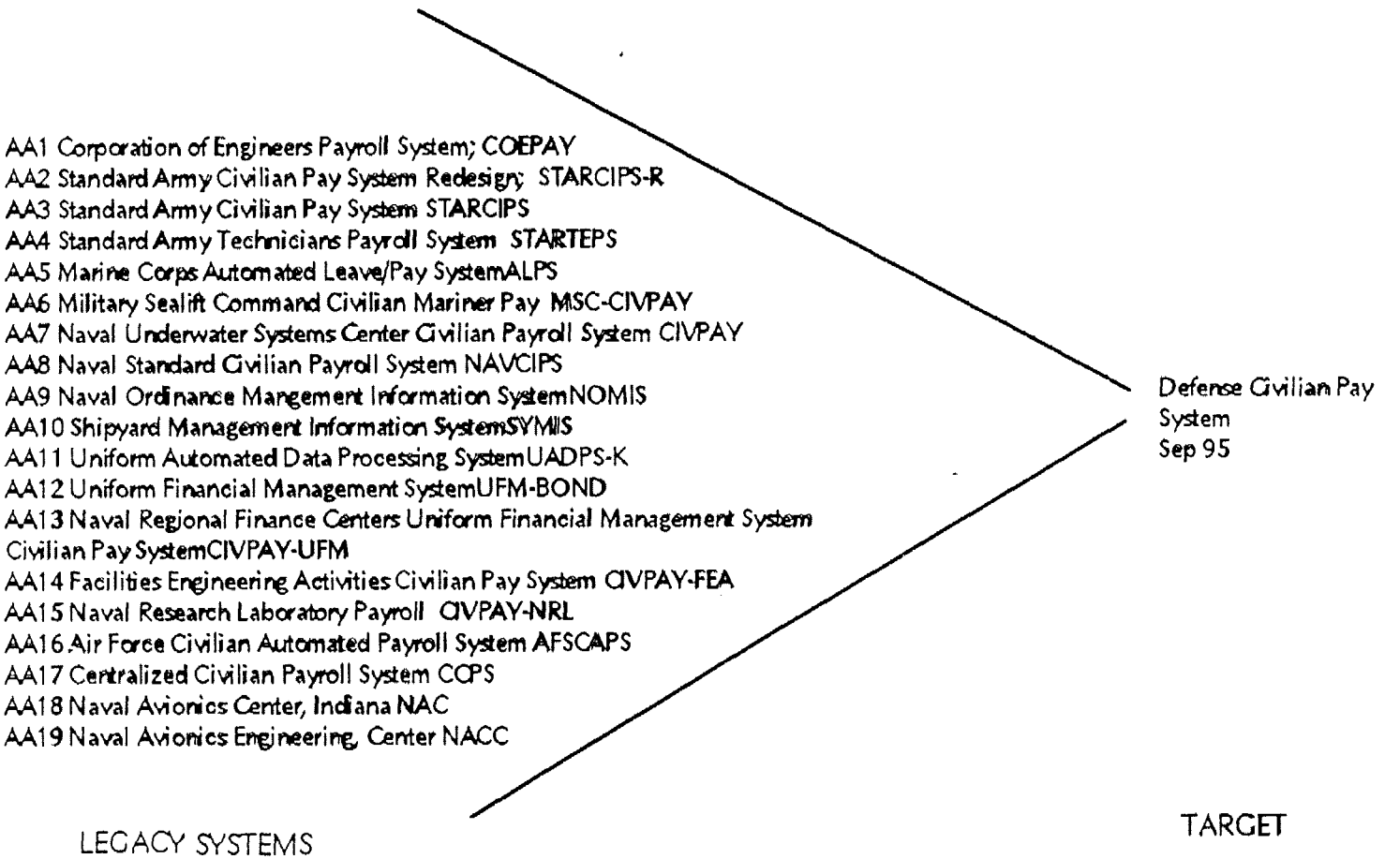
Average Price Decrease: -14.7%

SOURCE: Director, Technology Services and Strategy, Xerox Corporation, 10/21/92

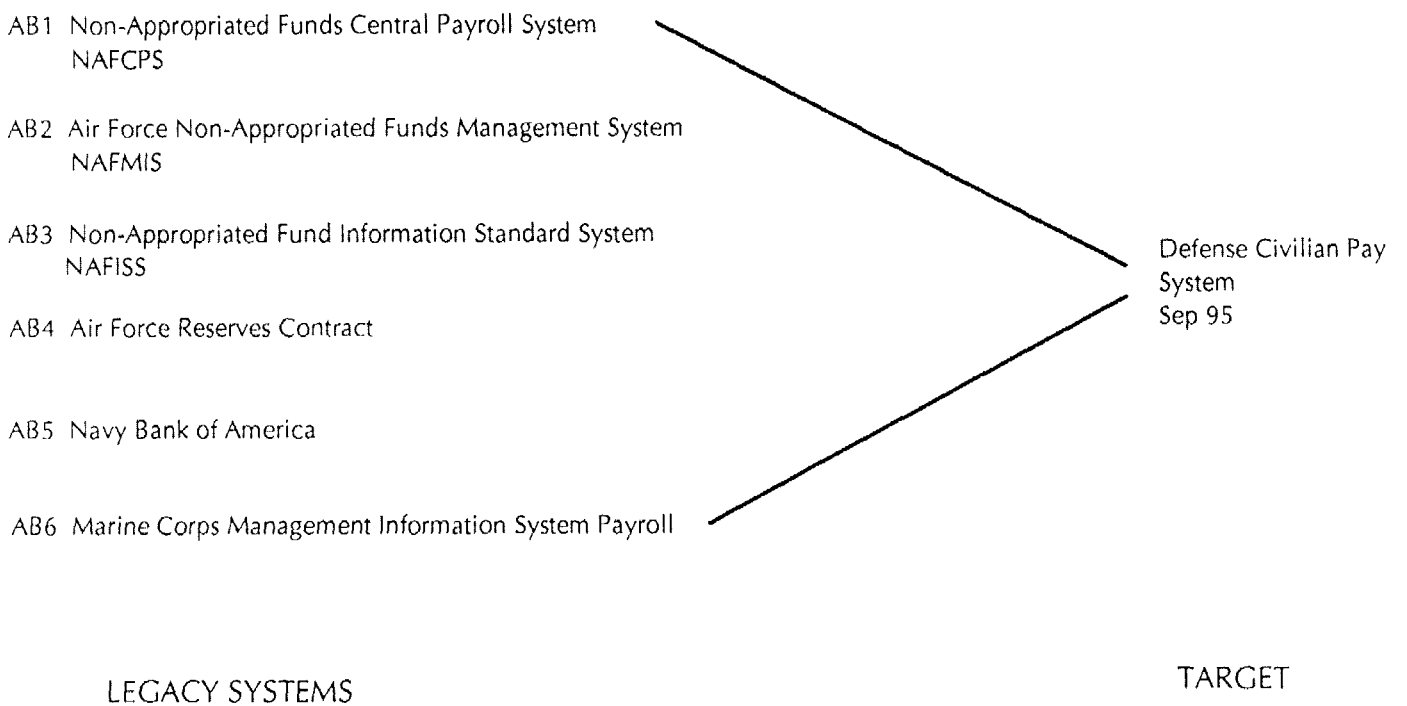
Financial Function - Systems Summary



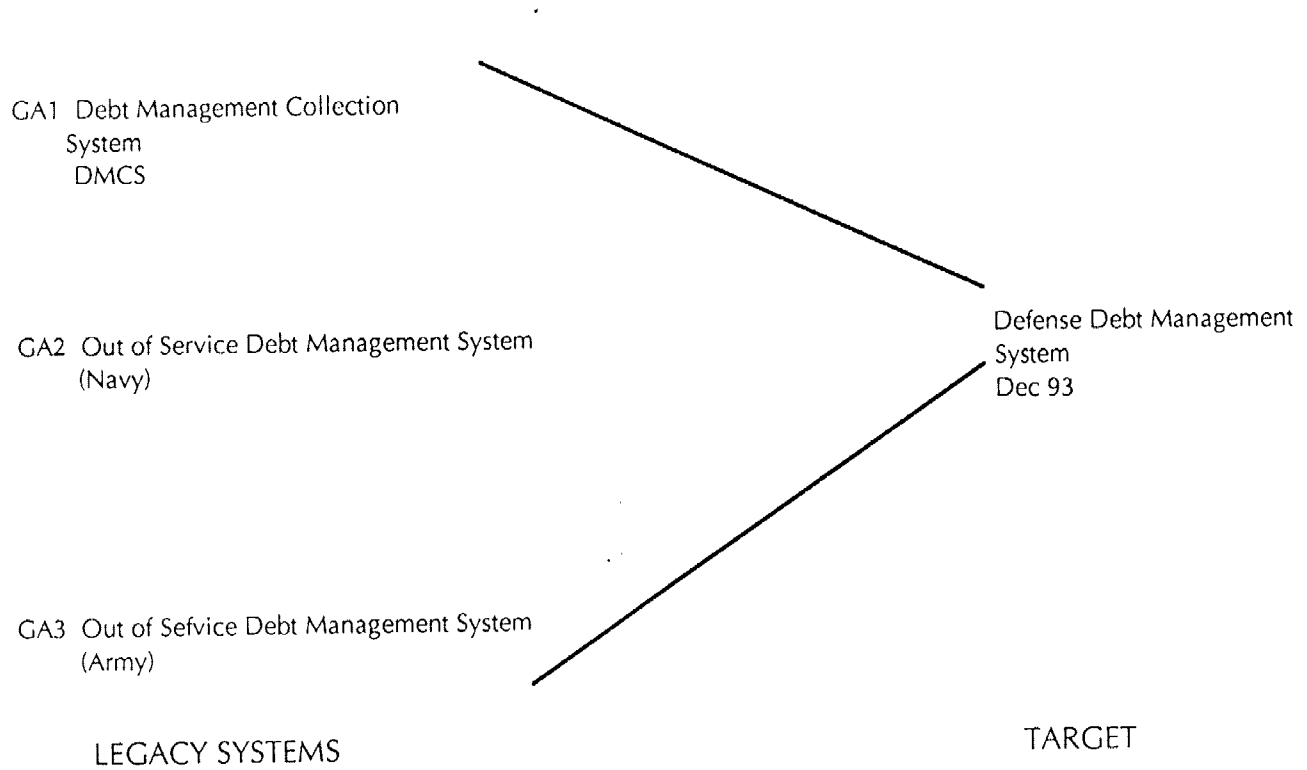
Appropriated Funds Civilian Payroll



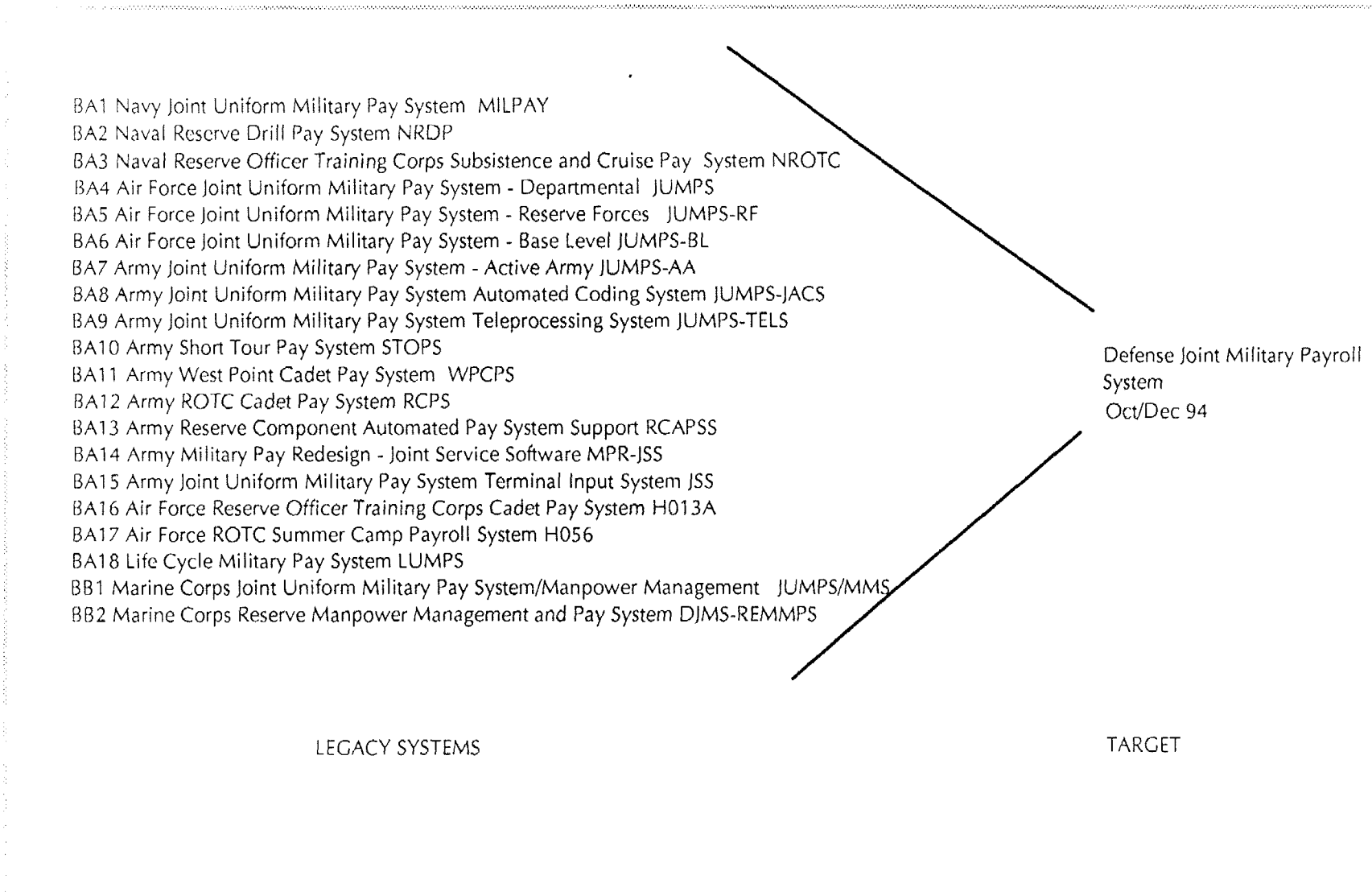
Non-appropriated Funds Civilian Payroll



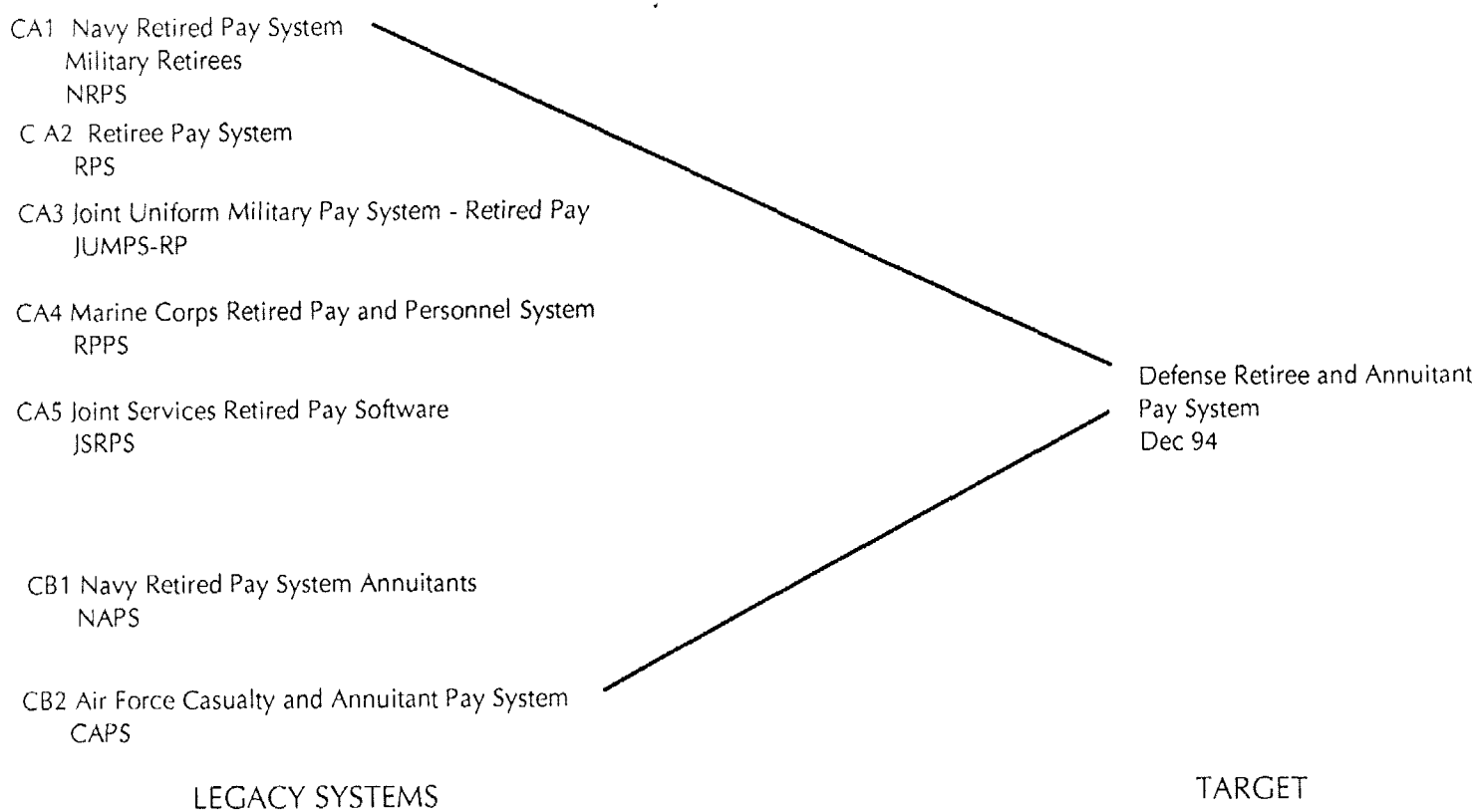
Debt Management Systems



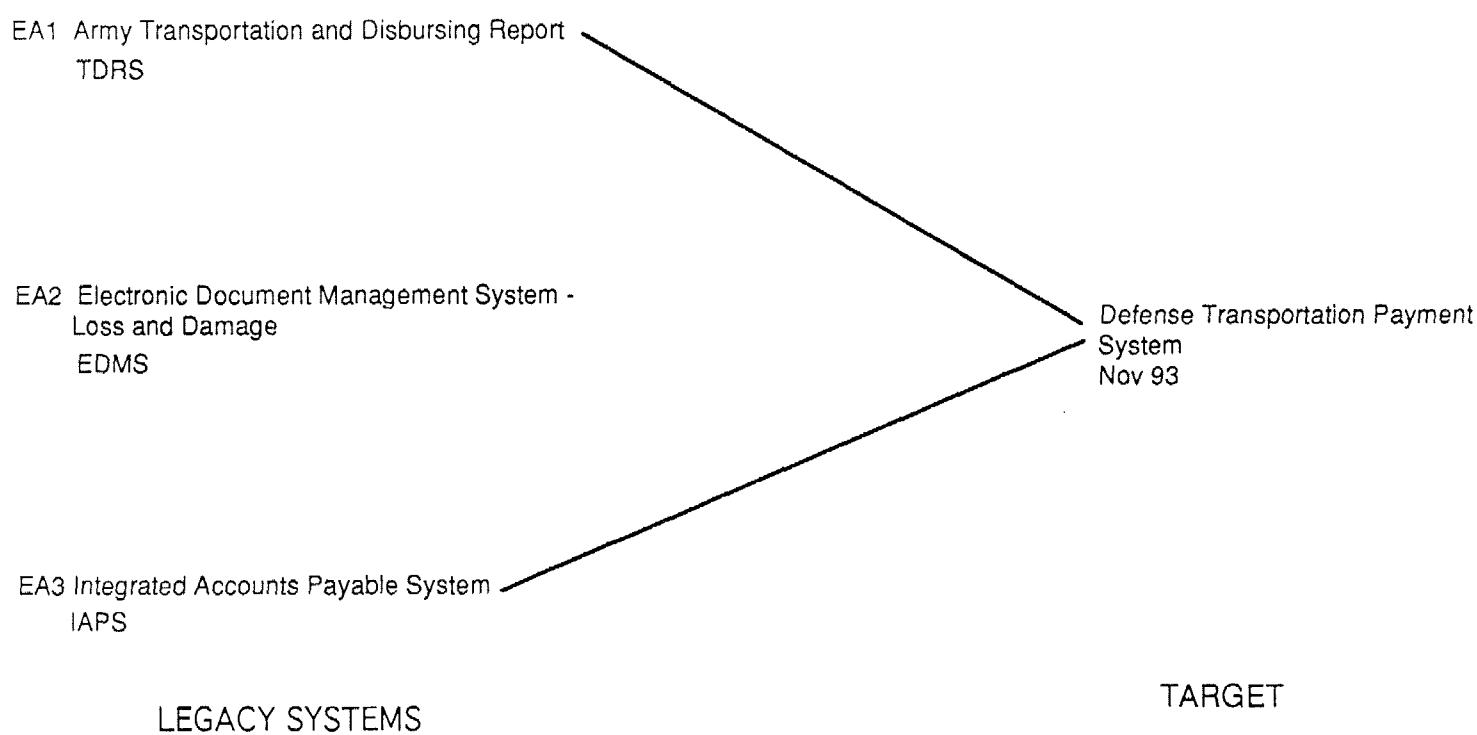
Military Payroll System



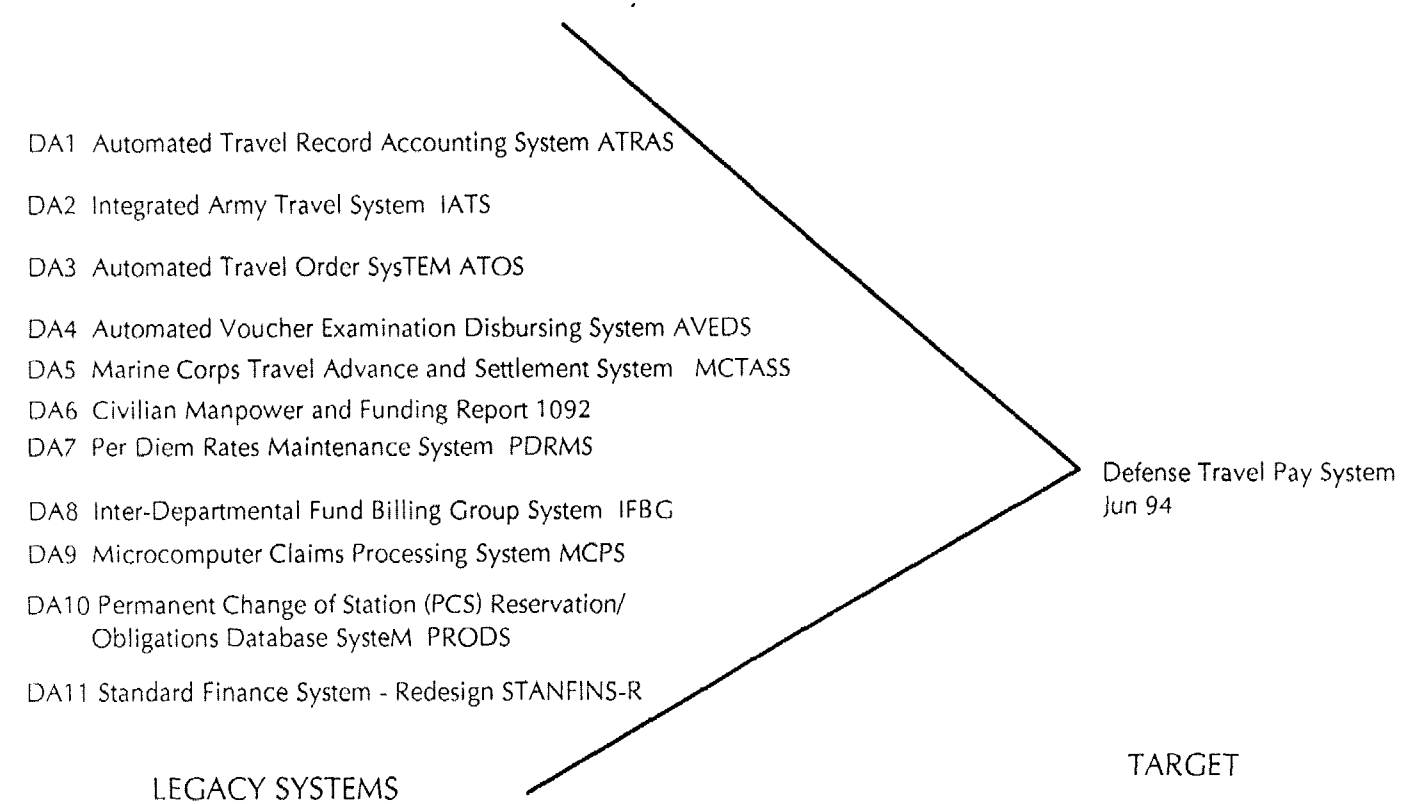
Military Retiree and Annuitant Pay



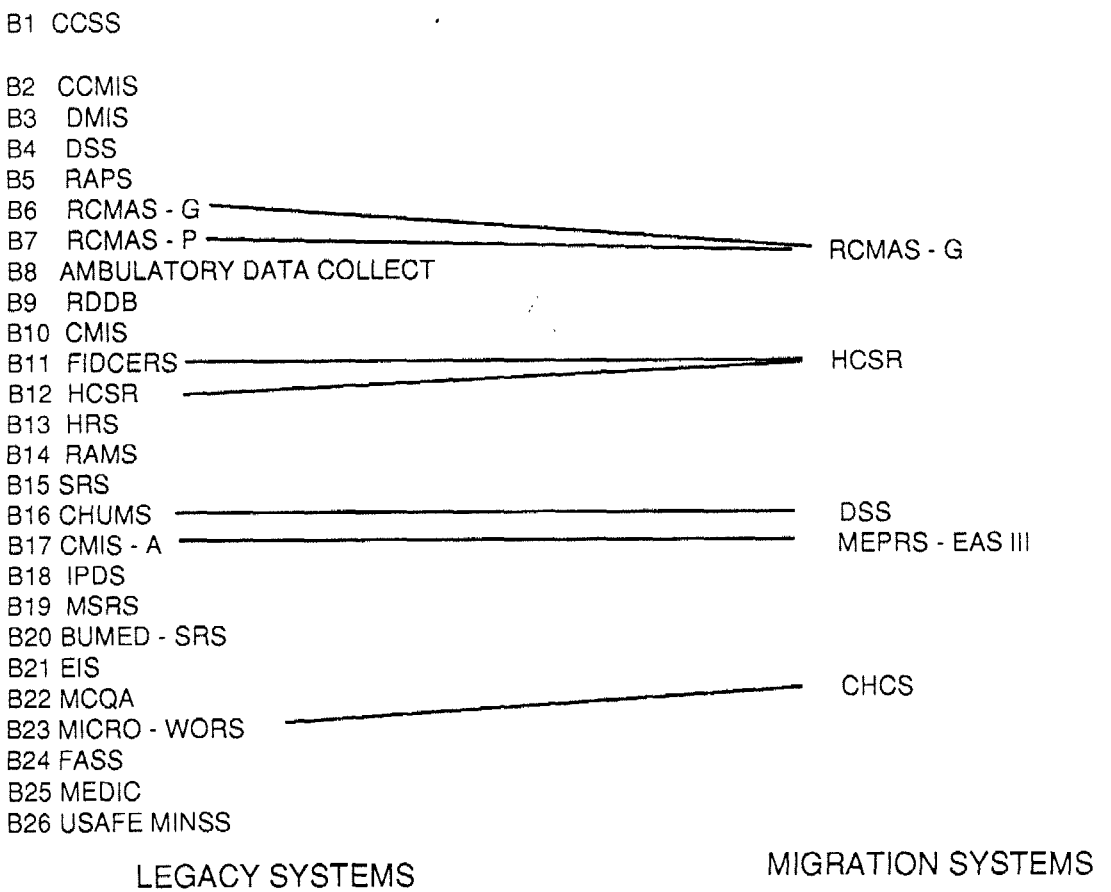
Transportation Payment Systems



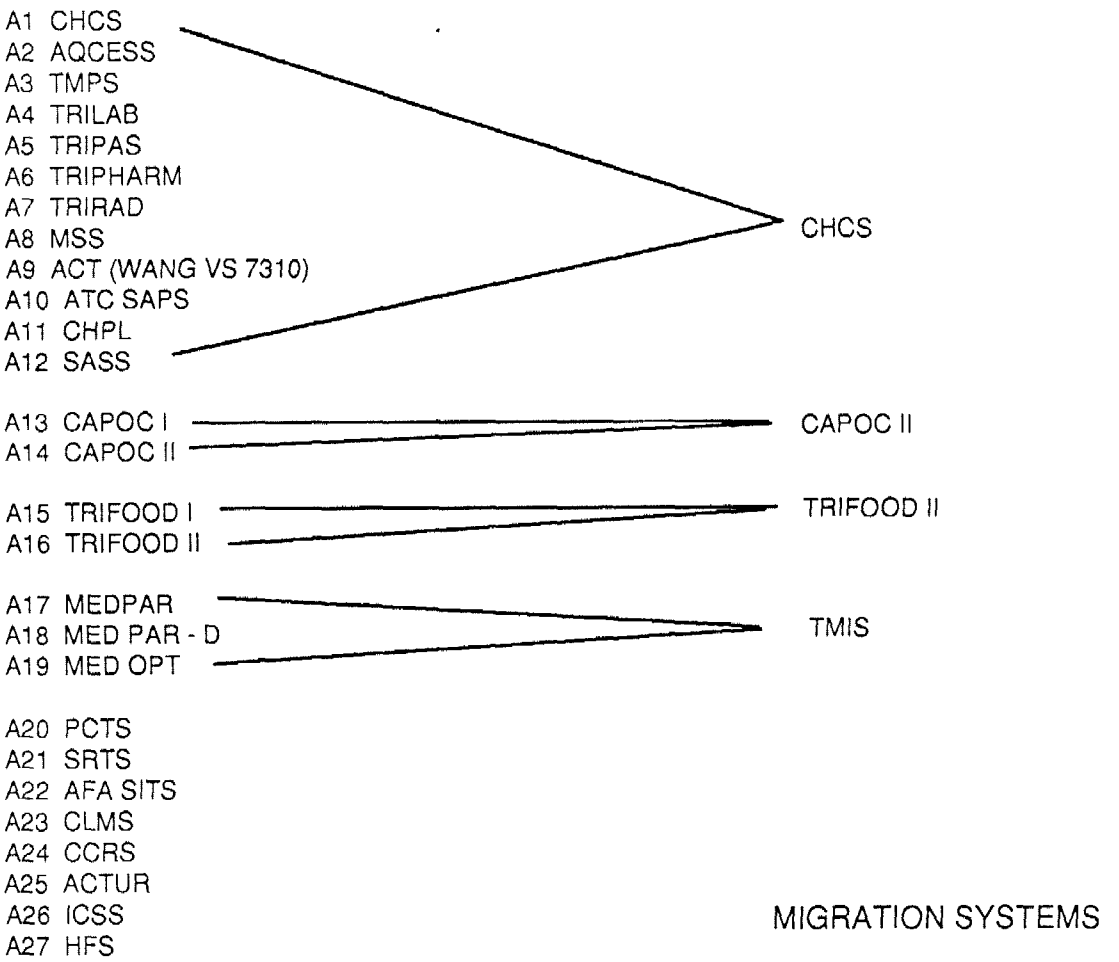
Travel Pay Systems



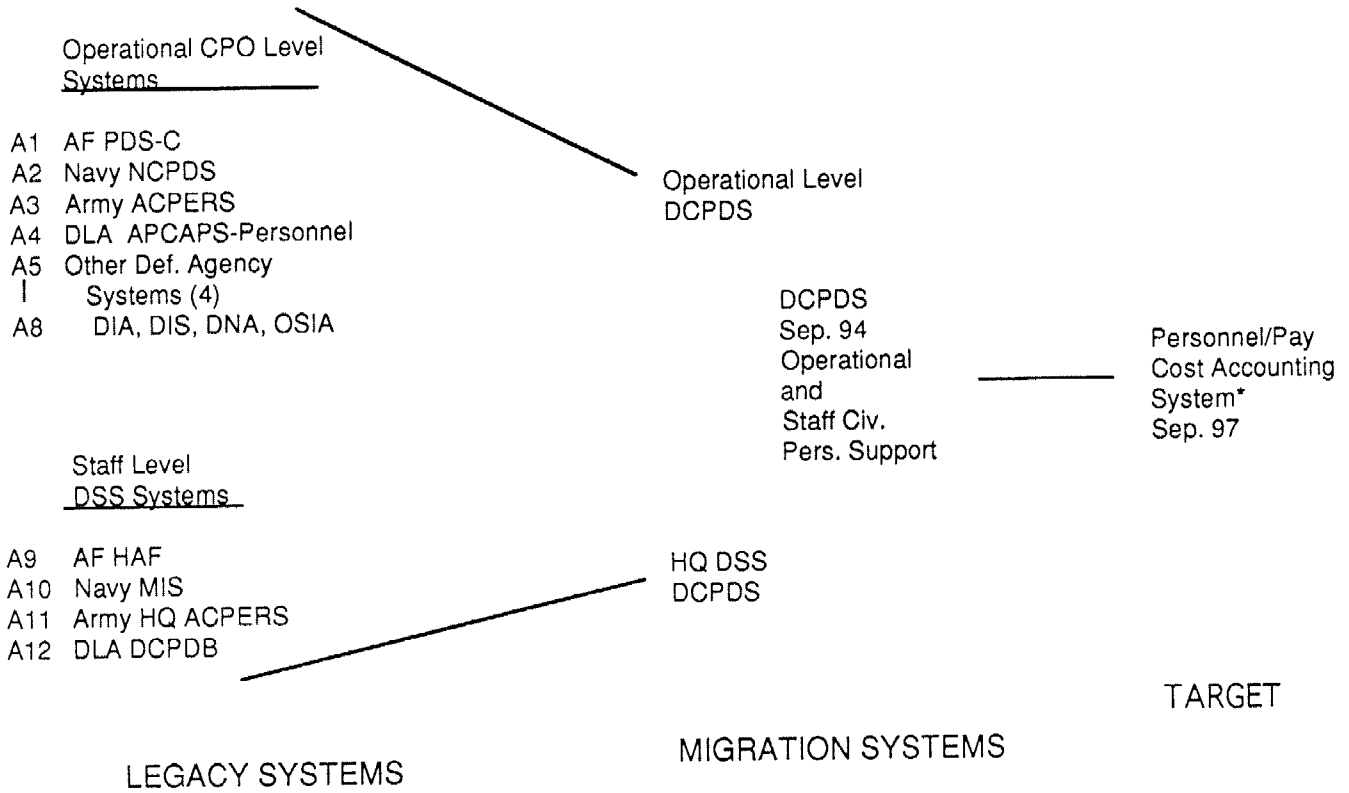
Health Functional Area - MIS/DSS Systems



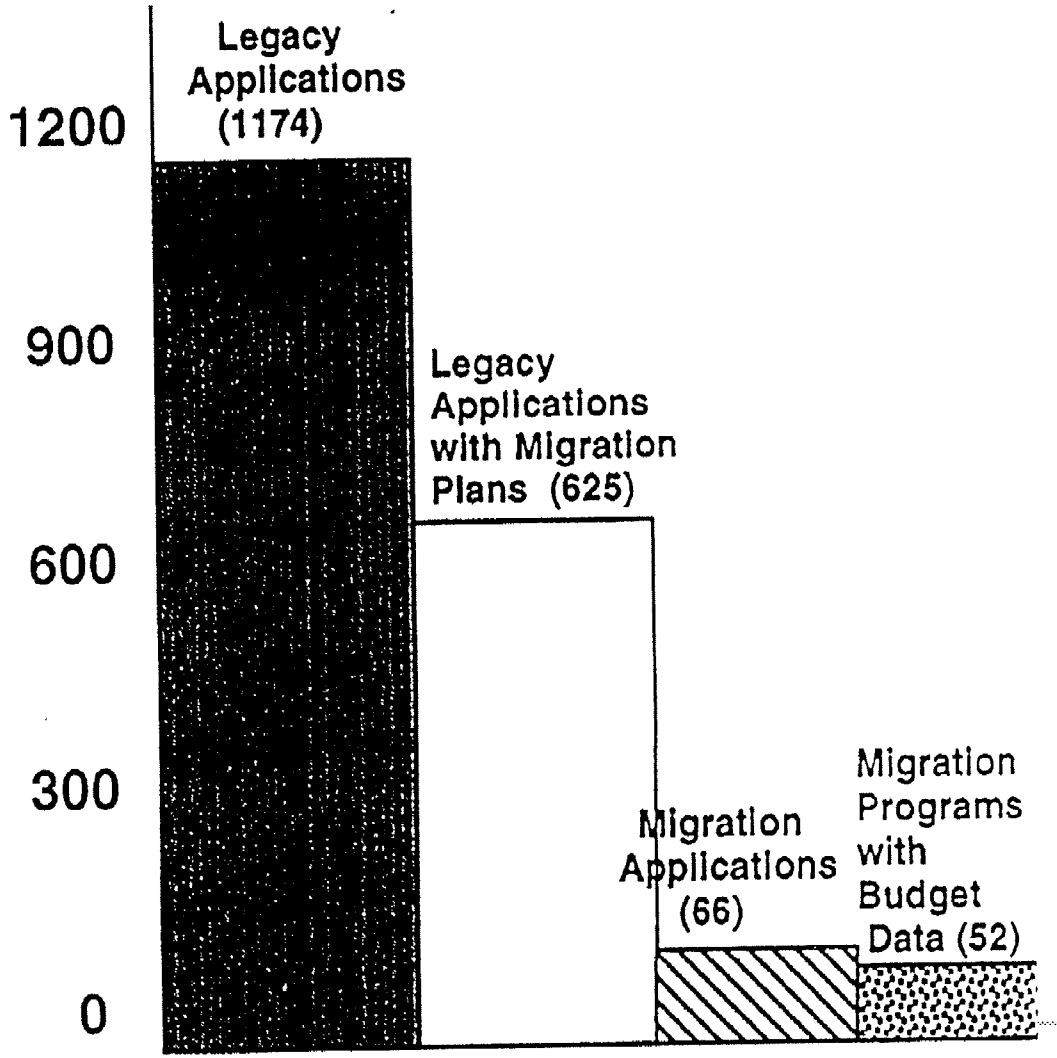
Patient Care Systems



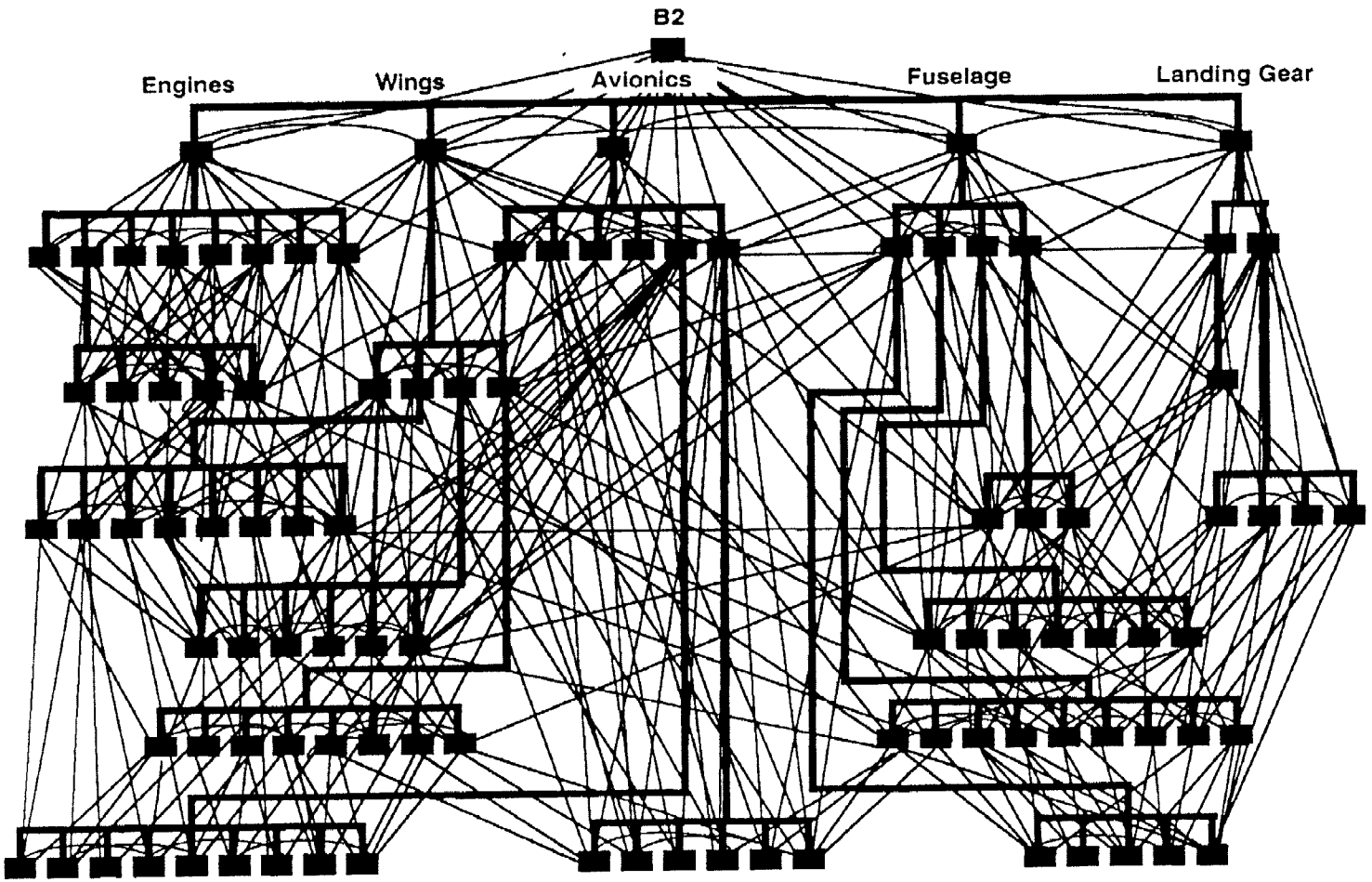
Civilian Personnel Resources Systems



Current Status of Application Migration Planning



Information Processing Without Integrated Data Bases



SOURCE: D.S.Appleton, Building a Business Case for CITIS, CALS Journal, Spring 1992, p.39

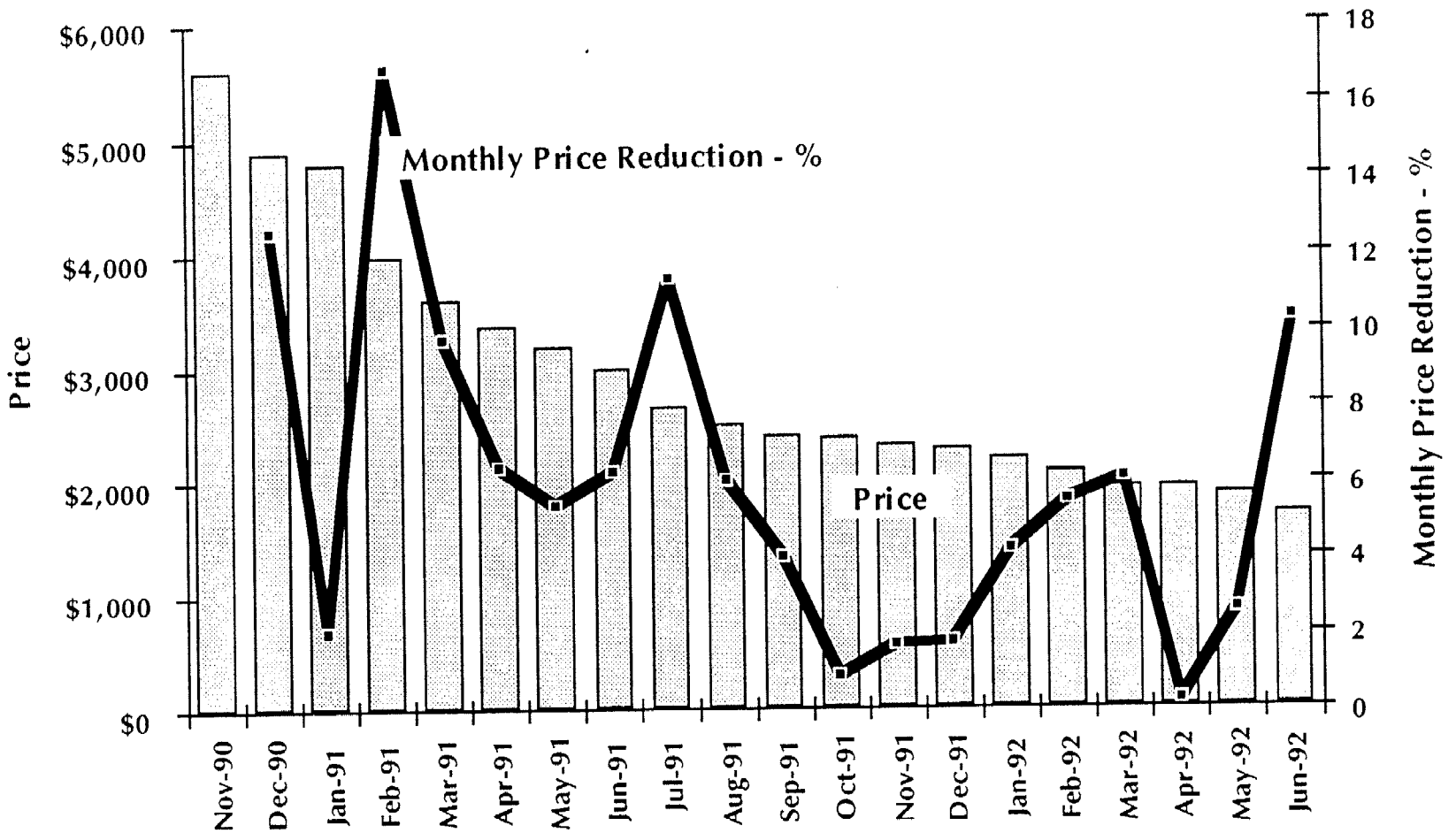
Ada Software Component Reuse at Gunter AFB

Application	Lines of Code	# of Reusable Components	% of Code Reused
Inventory Control - LOGMARS II	18,673	10	64%
Inventory Control - LABELS *	8,846	7	73%
Stock Fund - MAJCOM	20,529	10	65%
Repairable Support	15,355	10	66%

NOTE: Written by three programmers in three days, or 983 lines of code/programmer/day. Estimated productivity gain over 1,000%.

SOURCE: Memorandum from Lloyd Mosemann, 19 June 92, report by Capt. Brown/LGSXD

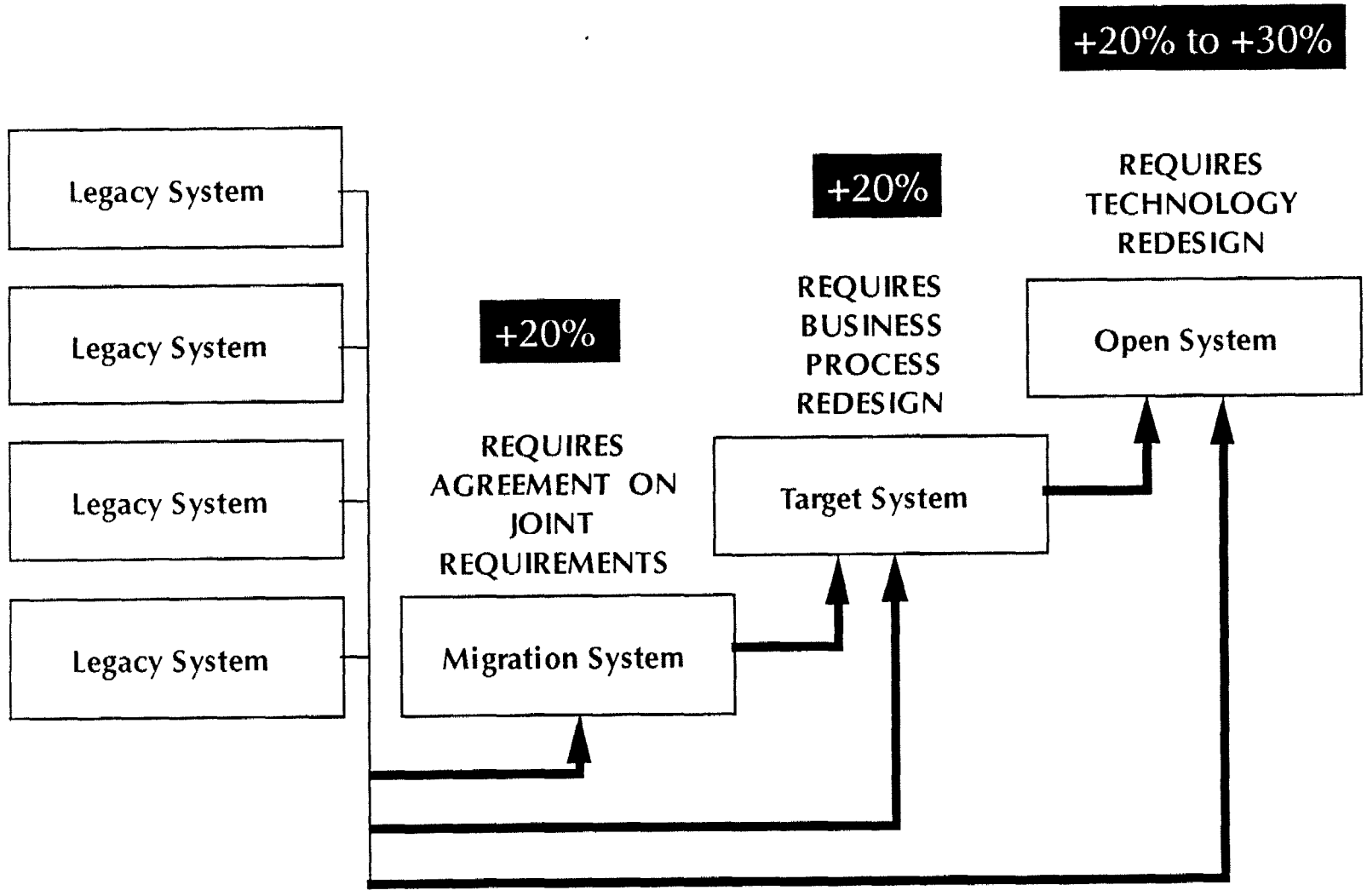
Prices and Price Changes of 486/33 Microcomputers



Average Monthly Price Reduction: 6%

Source: MicroTechnology Service, International Data Corporation

1993-1999 Productivity Gain Targets for CIM Applications



The Setting for IT Savings - Conventional Thinking Won't Do